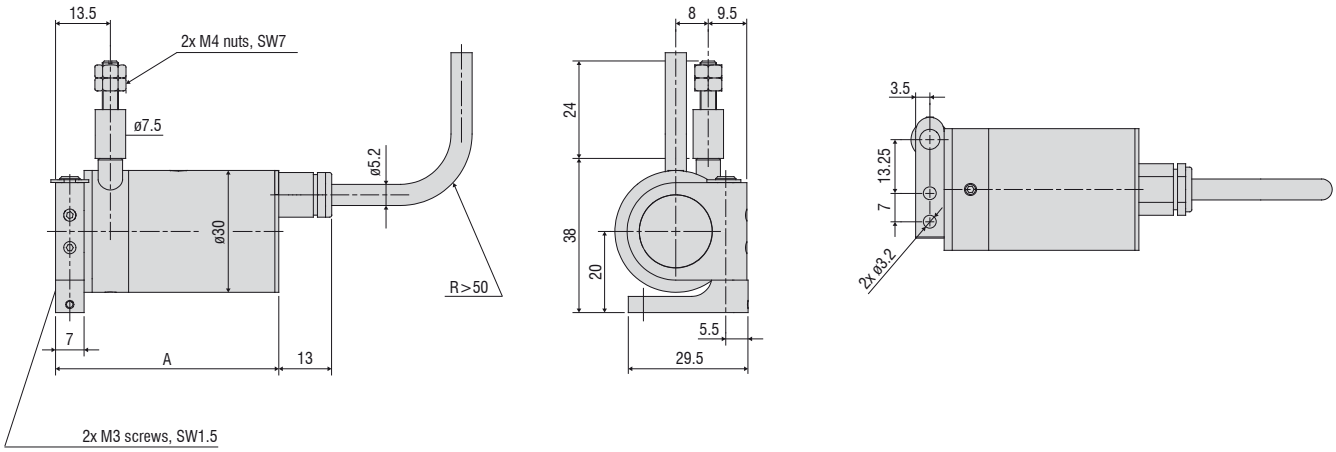
MICRO-EPSILON

More Precision.

wireSENSOR // Draw-wire displacement sensors

- *Compact miniature design*
- *Flexible mounting options due to swiveling mounting flange*
- *For very fast measurement movements, wire accelerations up to 100 g*

MPM model



Measuring range (mm)	A (mm)
50	55
150 / 250	64
50-HG	61
150 / 250-HG	70

Dimensions in mm, not to scale.

Model			WDS-50-MPM	WDS-150-MPM	WDS-250-MPM
Measuring range			50 mm	150 mm	250 mm
Analog output			Potentiometer		
Resolution			towards infinity		
Linearity	Conductive plastic potentiometer P20	≤ ±0.2 % FSO	≤ ±0.125 mm	-	-
	Hybrid potentiometer P25	≤ ±0.25 % FSO	-	≤ ±0.3 mm	≤ ±0.5 mm
Sensor element			Conductive plastic potentiometer	Hybrid potentiometer	
Wire extension force (max.)			approx. 3.5 N (HG option: 17 N)		
Wire retraction force (min.)			approx. 1.5 N (HG option: 10 N)		
Wire acceleration (max.)			approx. 25 g (HG option: 100 g)		
Material		Housing	Aluminum		
		Measuring wire	Stainless steel (ø 0.45 mm)		
Wire mounting			M4 threaded bolts		
Mounting			Mounting flange rotatable in two axes 180° / 360°		
Temperature range		Storage	-20 … +80 °C		
		Operation	-20 … +80 °C		
Connection			integrated cable, axial, length 1 m		
Shock (DIN EN 60068-2-27)			50 g / 20 ms in 3 axes, 1000 shocks each		
Vibration (DIN EN 60068-2-6)			20 g / 20 … 2000 Hz in 3 axes, 10 cycles each		
Protection class (DIN EN 60529)			IP65		
Weight			approx. 150 g (incl. cable)		

FSO = Full Scale Output
Specifications for analog outputs from page 54 onwards.

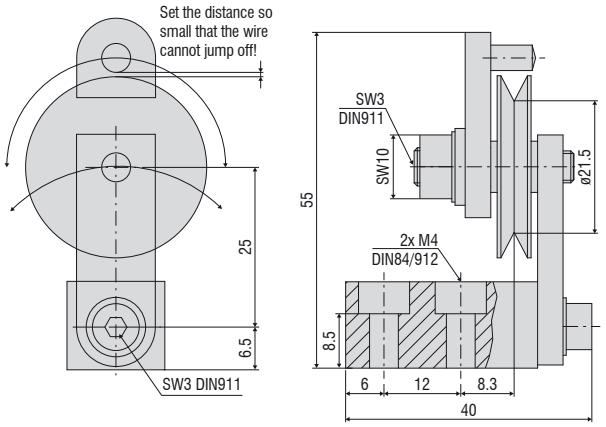
Article designation

WDS - 50 - MPM - C - P - HG

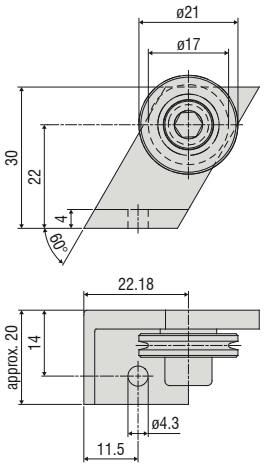
- 50 – Measuring range in mm
- MPM – MPM series
- C – Connection: C: integrated cable, axial, 1 m
- P – Output type: P: potentiometer
- HG – HG option: wire accelerations up to 100 g

Wire deflection pulleys for external installation	
TR1-WDS	Wire deflection pulley, adjustable, for sensors with a wire diameter ≤ 0.45 mm
TR3-WDS	Wire deflection pulley, fixed, for sensors with a wire diameter ≤ 0.45 mm
TR4-WDS	Wire deflection pulley, fixed, for sensors with a wire diameter of 0.8 mm to 1 mm

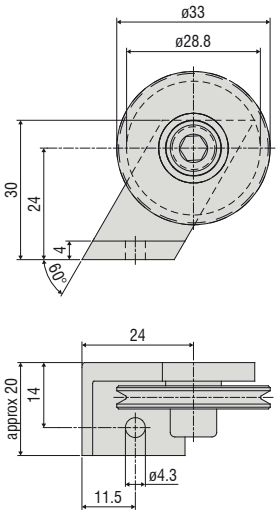
TR1-WDS
Wire deflection pulley, adjustable, for sensors with a wire diameter ≤ 0.45 mm



TR3-WDS
Wire deflection pulley, fixed, for sensors with a wire diameter ≤ 0.45 mm



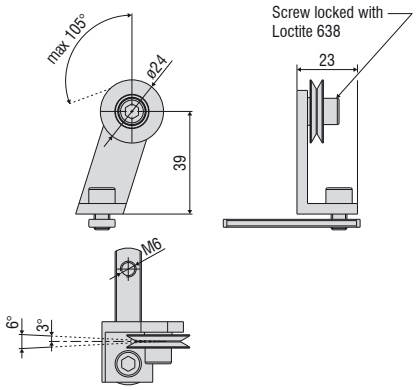
TR4-WDS
Wire deflection pulley, fixed, for sensors with a wire diameter of 0.8 mm to 1 mm



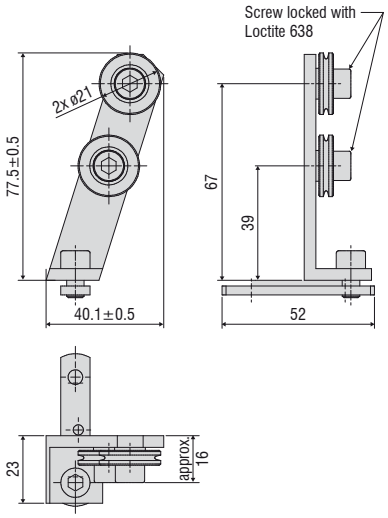
Dimensions in mm, not to scale.

Wire deflection pulley for direct installation on the sensor housing	
TR5-WDS	Integrated wire deflection pulley for P115 sensors with a wire diameter of 0.45 mm
TR5-WDS(03)	Integrated double deflection pulley for P115 sensors with a wire diameter of 0.45 mm
TR5-WDS(04)	Integrated double deflection pulley, 90° angled, for P115 sensors with a wire diameter of 0.45 mm
TR6-WDS(01)	Integrated wire deflection pulley for the P115 sensors with a wire diameter of 1 mm

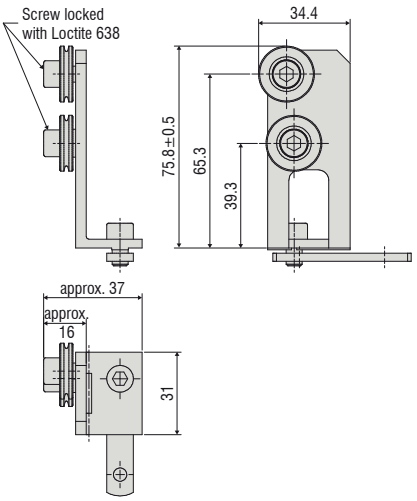
TR5-WDS
Integrated wire deflection pulley for P115 sensors
with a wire diameter of 0.45 mm



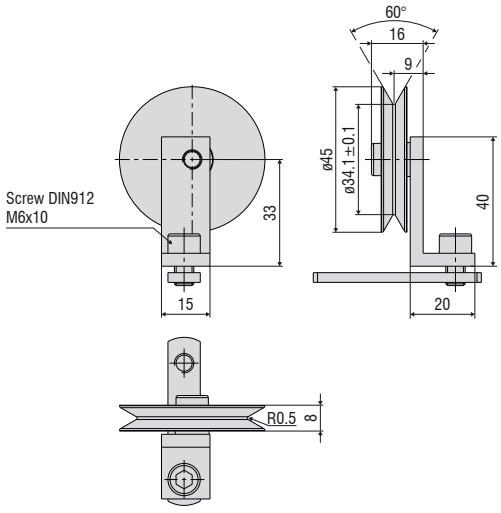
TR5-WDS(03)
Integrated double deflection pulley for P115 sensors
with a wire diameter of 0.45 mm



TR5-WDS(04)
Integrated double deflection pulley, 90° angled, for P115 sensors
with a wire diameter of 0.45 mm



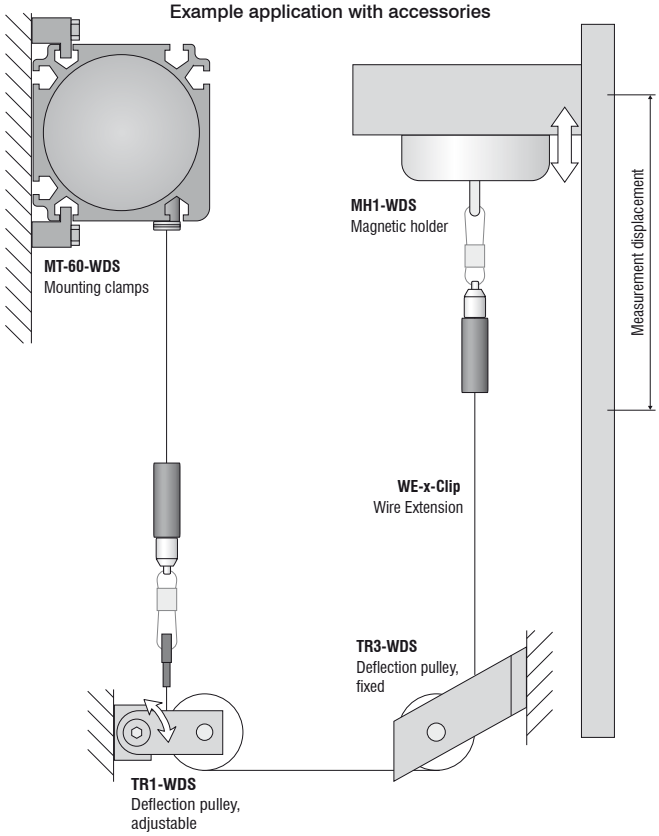
TR6-WDS(01)
Integrated wire deflection pulley for the P115 series
with a wire diameter of 1 mm



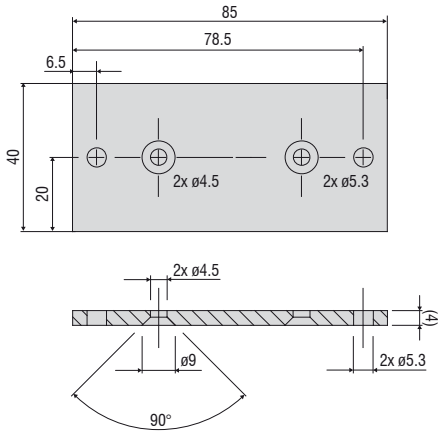
Dimensions in mm, not to scale.

Accessories	
WE-xxxx-M4	Wire extension with M4 wire connection, x=wire length
WE-xxxx-Clip	Wire extension with eyelet, x = wire length
WE-xxx-Clip-WSS	Wire extension with clip and uncoated wire d=0.45 mm
WE-xxxx-Ring-PW	Wire extension with plastic ring and para-aramid wire, 1 mm
GK1-WDS	Fork head for M4
MH1-WDS	Magnetic holder for wire attachment
MH2-WDS	Magnetic holder for sensor mounting
MT-60-WDS	Mounting clamps for WDS-P60
FC8	Mating plug for WDS straight, 8-pin
FC8/90	Mating plug, 90° angled for WDS
PC3/8-WDS	Sensor cable, 3 m long
PS2020	Power supply unit 24 V / 2.5 A; input 100-240 VAC, output 24 VDC / 2.5 A; mounting onto symmetrical standard rail 35 mm x 7.5 mm, DIN 50022)
WDS-MP60	Mounting plate for P60 models
PC2/10-WDS-A	Cable for SSI encoder, 2 m long
PC2/10-WDS-E	Cable for incremental encoder, 2 m long
PC10/10-WDS-A	Cable for SSI encoder, 10 m long
PC10/10-WDS-E	Cable for incremental encoder, 10 m long

Example application with accessories



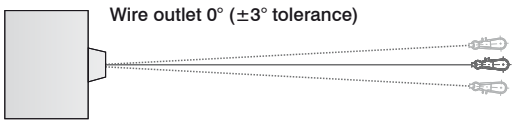
WDS-MP60
Mounting plate for P60 models



Installation instructions:

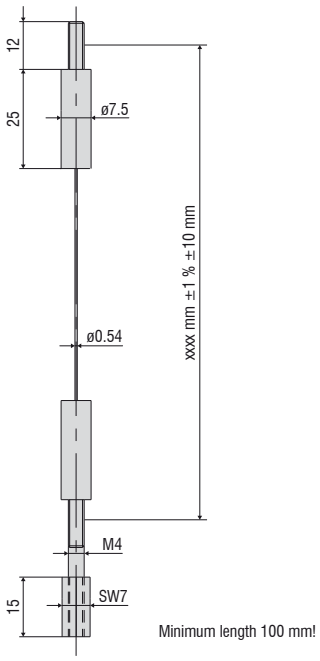
Wire attachment: during installation, do not allow at any time the measuring wire to freely return.

Angle of wire outlet: Make sure during installation that the wire outlet is straight (tolerance of ±3°). Exceeding this tolerance leads to increased wear of the wire material and on the wire outlet.

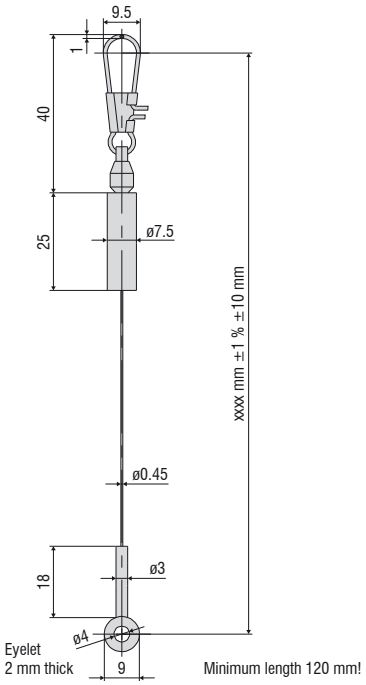


Dimensions in mm, not to scale.

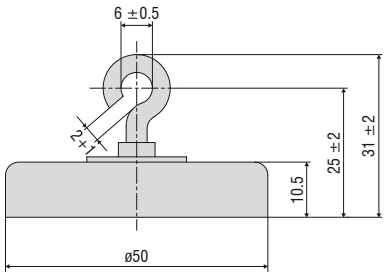
WE-xxxx-M4
Wire extension with M4 wire connection, x=wire length



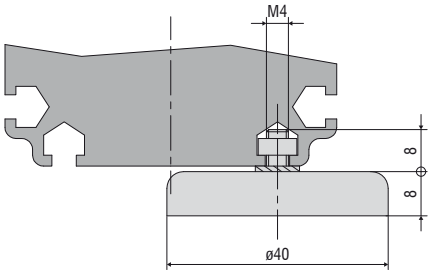
WE-xxxx-Clip
Wire extension with eyelet, x = wire length



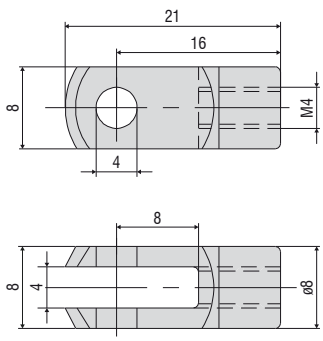
MH1-WDS
Magnetic holder for wire attachment



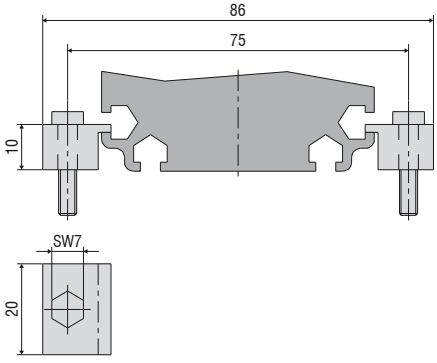
MH2-WDS
Magnetic holder for sensor mounting



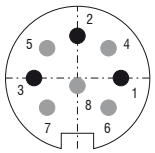
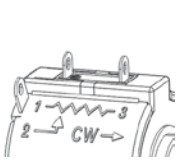
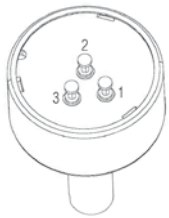
GK1-WDS
Fork head for M4

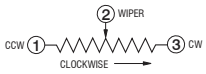


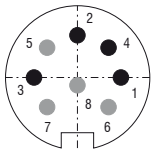
MT-60-WDS
Mounting clamps for WDS-P60

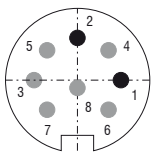


Output	Connector M16 -SA / -SR	Integrated cable -CA / -CR	Open contacts

Potentiometer output (P)				
Input voltage	max. 32 VDC with 1 kOhm / max. 1 W	 Sensor side		 
Resistance	1 kOhm ±10 % (resistance divider)			
Temperature coefficient	±0.0025 % FSO/°C			
		1 = Input + 2 = Ground 3 = Signal	White = Input + Brown = Ground Green = Signal	1 = Input + 2 = Signal 3 = Ground



Voltage output (U)				
Supply voltage	14 ... 27 VDC (non-stabilized)	 Sensor side		
Current consumption	max. 30 mA			
Output voltage	0 ... 10 VDC Option 0 ... 5 / ±5 V			
Load resistance	>5 kOhm			
Output noise	0.5 mV_{eff}			
Temperature coefficient	±0.005 % FSO/°C			
Electromagnetic compatibility (EMC)	EN 61000-6-4 EN 61000-6-2			
Adjustment range (if supported by the model)		1 = Power supply 2 = Ground 3 = Signal 4 = Ground	White = Supply Brown = Ground Green = Signal Yellow = Ground	
Zero	±20 % FSO			
Sensitivity	±20 %			

Current output (I)				
Supply voltage	14 ... 27 VDC (non-stabilized)	 Sensor side		
Current consumption	max. 35 mA			
Output current	4 ... 20 mA			
Load	<600 Ohm			
Output noise	<1.6 μA_{eff}			
Temperature coefficient	±0.01 % FSO/°C			
Electromagnetic compatibility (EMC)	EN 61000-6-4 EN 61000-6-2			
Adjustment range (if supported by the model)		1 = Power supply 2 = Ground	White = Supply Brown = Ground	
Zero	±18 % FSO			
Sensitivity	±15 %			

Sensors and Systems from Micro-Epsilon

Sensors and systems for displacement, distance and position

Sensors and measurement devices for non-contact temperature measurement

Measuring and inspection systems for metal strips, plastics and rubber

Optical micrometers and fiber optics, measuring and test amplifiers

Color recognition sensors, LED analyzers and inline color spectrometers

3D measurement technology for dimensional testing and surface inspection

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